



CSM 2040 – Windows Programming Course Assignment 2003

Department of Computer Science and A. I.

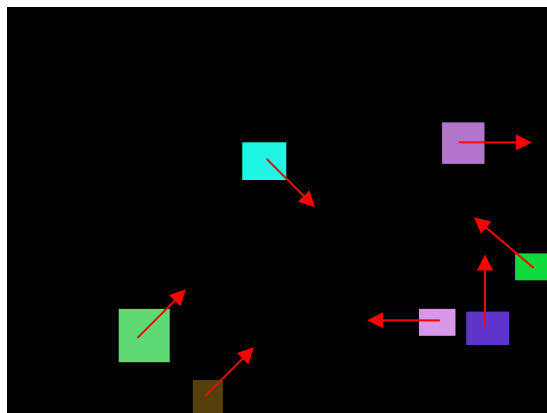
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Exploring techniques in Win32 Programming

- This assignment carries 40% of your final mark.
- Basic requirements:
 - A full screen windows application where a variable number of objects (e.g. boxes) randomly move North, South, West, East, North-West, North-East, South-West, or South-East.
 - When an object collides with the edge of the screen, the traveling direction of the object changes to another random direction.
 - When the up arrow is pressed, the number of objects on screen increases.
 - When the down arrow is pressed, the number of objects on screen decreases.
 - When the left arrow is pressed, the traveling speed of the objects decreases.
 - When the right arrow is pressed, the traveling speed of the objects increases.
 - The objects must have different colours (set randomly when the object is created).
 - The objects must have different sizes (again, set randomly when the object is created).
 - The list of objects must be maintained in a linked list data structure implemented using Windows heap memory functions.
 - Each object must be handled by a separate thread (i.e. one thread per object).
 - The background colour of the main window must be set to a random colour.
- Sample screen shot (red arrows indicate the traveling direction):



- 20% of the mark allocated to the assignment will be awarded for “creative work”.
- Creative work involves adding extra interesting features outside of the specification of this assignment.
- Creative work **may** include:
 - Displaying an object counter and current speed factor.
 - Using non-rectangular shapes (e.g. Stars or triangles).
 - Implementing collision detection between objects so that objects “bounce off” when they hit each other.
- The program must be accompanied by a technical report describing any implementation details and techniques used to complete the assignment.
- PLAGIARISM WILL NOT BE TOLERATED.
- Refer to the assignment instructions at
<http://webster.cs.um.edu.mt/kguil/assignment.html>